Experimental section

Cefadroxil was obtained from DSM Life Sciences Group (The Netherlands). Pyridoxal was obtained from Fluka. 2,7-Dihydroxynaphthalene was purchased from Acros. The HPLC analyses were performed using a Pharmacia LKB.LCC 2252 HPLC, with a reversed phase column (Merck 50983 LiChrospher 100RP18, 5 μm, 250×4 mm). For detection a UV detector (λ=254 nm) of Farmacia LKB.UV-MII was used. An appropriate eluent for the analysis was a mixture of acetonitril (HPLC grade) and a 50 mM phosphoric acid buffer with pH=2.7. The pH stat apparatus used was a Schot Geräte Titrator TR154.

Epimerization of Cefadroxil.
Cefadroxil (1 g, 1.37 mmole) was dissolved in 20 ml of water at a pH of 8, adjusted with diluted NH_3. Pyridoxal hydrochloride (60 mg, 10%) was added to the clear solution. Subsequently the pH was adjusted to 7.5. Samples were taken with time and analyzed by HPLC. After one night at room temperature a thermodynamically equilibrated solution was obtained. At the equilibrium the solution contained 37% of *epi*-Cefadroxil. This solution was used to study the asymmetric transformation.

Asymmetric transformation of epi-Cefadroxil.
To the epimerized Cefadroxil solution (1.37 mmole in 20 ml water), 2,7-dihydroxynaphthalene (1.5 mmole) dissolved in ether (2 ml) was added. The pH was maintained constant at 7.5 by adding 5% HCl using a pH stat apparatus. The asymmetric transformation was monitored by HPLC. After one night the precipitated complex was filtered from the reaction mixture. The Cefadroxil/2,7-dihydroxynaphthalene complex could be obtained in a yield of 1.2 g (86%).

Decomplexation of the Cefadroxil/2,7-dihydroxynaphthalene complex.
The complex (4.2 mmole) was suspended in ethyl acetate (10 ml). To this suspension 5% HCl (2 ml) was added and the heterogeneous mixture was stirred until both layers were completely clear. The water layer was separated from the ethyl acetate layer and subsequently washed with fresh ethyl acetate (5 ml). The pH of the acidic water layer was raised to 3 by adding 25% ammonia. Further adjustment to a pH of 4 was made by adding 5% ammonia where upon the Cefadroxil precipitated. The water layer was cooled at 5°C for 30 minutes after which the product was isolated by filtration. Cefadroxil monohydrate was obtained as a white solid in a yield of 1.5 g (95%).